5.9.1 Practice: Assignment Name: Isaiah Singh 4/24/2020

ALS Liberal Arts Math 1 Sem 2
*Points Possible:*40

Answer the following questions using what you've learned from this unit. Write your responses in the space provided.

Scoring: Each question is worth 2 points.
For questions 1 – 3, use the following stem-and-leaf plot to answer the questions.

Ages of All Elephants at the Woodward Zoo

```
0|2 8 8        Key: 3|3 = 33 years
1|4 4 9 9
2|0 0 2
3|3 6
4|2
```

1. How many elephants live at the zoo?

Answer choices:

42

18

13

There is not enough information given to answer this question.

2. What is the age difference between the oldest and youngest elephants?

Answer choices:

9

22

40

44

3. Which best describes the shape of the distribution of ages?

Answer choices:

Positively skewed

Negatively skewed

Relatively symmetrical

Normal

For questions 4 – 6, use the following data set to calculate the mean, median, and mode.
Brad Pit is a fabulous second baseman for the Portland Pilots baseball team. In his illustrious career he has committed the following number of errors each year:

```
16   12   06   09   17   04   21   12   08   12
```

4. Based on the collected data, what is the mean number of errors Brad made per year?

Answer choices:

5. Based on the collected data, what is the mode number of errors Brad committed during his ten-year career?

Answer choices:

6. Based on the collected data, what is the median number of errors Brad committed per year?

Answer choices:

11.7

12

14

21

11.7

12

14

21

11.7

12

14

21

For questions 7 – 10, use the following data set to calculate the mean, range, variance, and standard deviation.
Mr. Johnson was concerned about the number of students absent from his classes during the day. He decided to choose one week at random and tally the number of students who missed his classes each day. Here are his sample data:

12   10   08   08   12

7. Based on the collected data, what is the range of number of absences per day from this sample?

Answer choices:

4

8

10

12

8. Based on the collected data, what is the mean number of absences per day from this sample?

Answer choices:

4

8

10

12

9. Based on the collected data, what is the variance of absences per day from this sample?

Answer choices:

1.79

2

3.2

4

10. Based on the collected data, what is the standard deviation of absences per day from this sample?

Answer choices:

1.79

2

3.2

4

For questions 11 – 14, use the following data set to calculate the five-number summary.
The Kingston High School girls' basketball team had a free-throw contest. Below are the number of free throws in a row each member of the team made:

7   8   12   35   3   8   8   5   12   14   26

11. Based on the collected data, what is the upper (or third)

12. Based on the collected data, what is the IQR

13. Based on the collected data, what is the upper limit

14. What percentage of the data falls between 7 and 14 consecutive free

2

quartile of the number of consecutive free throws made by each player?

Answer choices:

7

8

12

14

(interquartile range) of the number of consecutive free throws made by each player?

Answer choices:

7

10.5

12

21

cutoff to determine if there are any outliers?

Answer choices:

$5 \cdot (14 - 7)$

$14 + 1.5 \cdot (14 - 7)$

$21 - 1.5 \cdot (14 - 7)$

$7 + 1.5 \cdot (14 - 7)$

throws?

Answer choices:

25%

50%

75%

100%

For questions 15 – 17, use the following comparative stem-and-leaf plots to answer questions about the center, shape, and spread of two distributions.

The school administration asked all boys and girls who went to the school dance, "How much money did you spend on your dress or suit/tuxedo?" A sample of the results is shown below.

Boys   **Girls**

```
            2 |05|
    9 8 6 6 5 |06| 6
8 8 8 8 7 5 5 |07| 5 8
9 9 9 7 7 4 2 |08| 0 6 7
  9 8 4 4 3 2 |09| 0 0 4 7
        6 5 4 |10| 2 5 5 6 9 9 9
            3 |11| 4 5 6 6 6 8 8 8
              |12| 8 8 8 8 9
```

The values represent the dollar amounts that each student spent. There are 30 responses from boys and 30 responses from girls.

Based on the sample data, the shape of the distribution of the amount spent by the boys can best be
15. described as:

Answer choices:

positively skewed.

Based on the sample data, the shape of the distribution of the amount spent by the girls can best be
16. described as:

Answer choices:

positively skewed.

Based on the sample data, if you compare the mean and the median amounts spent by the girls, what can you conclude?
17.

Answer choices:

mean = median

mean > median

3

negatively skewed.   **negatively skewed.**

mean < median

symmetrical.   symmetrical.

You cannot tell just by looking at the plot.

bimodal.   bimodal.

For questions 18 – 20, you will be asked to transform data using either multiplication or addition. After completing the transformation, answer questions concerning the center and spread of the transformed data.

Use the following data set to answer questions 18 – 20:

8, 9, 13, 17, 18

(Consider these numbers a population.)

If 20 is added to each number in the above data set, the new median will be:	If each number in the above data set is multiplied by 5, the new mean will be:	If 20 is added to each number in the above data set, the new standard deviation will be:
Answer choices:	Answer choices:	Answer choices:
18. 13	**19.** 13	**20.** **the same.**
29	**65**	greater by 20.
33	85	less by 20.
37	90	20 times larger.